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computing news

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A Report on Zenith's 1986 Educational Seminar

[The following article presents highlights from a longer report to be published in a forthcoming issue of the CCH Newsletter.]

In April, Zenith Data Systems held a seminar on the "use of the microcomputer as an integrated tool in teaching by universities." Conferees representing a wide variety of academic disciplines came from institutions across Canada and in the United States to discuss four major topics: introducing the concept of microcomputing into the institution; development of courseware; networking and the electronic campus; and computer-aided instruction. Each topic was addressed by one or more speakers, and additional sessions were devoted to round-table discussion. Some software and printed materials were demonstrated by conferees at the close of the seminar.

The first speaker, Dean David Bray of Clarkson University, described the first year of the programme for introducing microcomputers at Clarkson, a relatively small engineering school. Microcomputers were purchased for all entering students, who were in turn responsible for maintaining these machines during their stay at Clarkson; upon graduation, students could buy their micros by forfeiting a small deposit. This scheme allowed the university to avoid replacing obsolete equipment and encouraged the student to consider the machine his or her own.

Among the applications, word processing received the most attention, and instructors attributed a noticeable improvement in the overall quality of writing to the amount of rewriting students did. Students also used computer-assisted tutorials and simulation software, benefitting particularly from the immediacy that comes from graphical representation of experimental results. The programme seems to have encouraged considerably more interaction between students, although this may have been due to the novelty.

Dr. David Turke of Queen's University spoke on their students' reaction to a similar programme. Although students at Queen's were not required to purchase microcomputers, purchase was "strongly recommended." Machines were provided for those who could not afford them, but over 90% of incoming students purchased their own microcomputers. Each machine (a Zenith 148) was packaged with a wide range of software, but students' responses have since narrowed the selection. The hardware is reevaluated every year.

To encourage courseware development, students were hired to work with interested faculty members. In addition, a survey of students in computer-assisted courses later indicated that the instructor plays a crucial role in getting students to use microcomputers and particular software. In these terms the Queen's programme was quite successful: over 80% recommended use of a microcomputer to new students. They complained, however, about insufficient time to learn the computer-aided systems, and they requested more encouragement from faculty.

Professor Brian Hunter, also of Queen's, likewise spoke about developing courseware and persuading colleagues to use computers in their teaching. Because university administrative and economic policies do not reward faculty for developing courseware, other benefits to faculty must be demonstrated. To get them involved, Professor Hunter recommended that faculty first be given computers, then be shown the connections between teaching and research (where the computer is more obviously useful), and then be offered student help to develop the courseware. He also commented on the need for developing and sharing courseware among universities.

Dr. Douglas Abbott, of the University of Massachusetts (UMass), spoke about distri-

continued...

Educational Seminar continued

buted computing and networking. He emphasized how this form of computing alters the environment in which scholars and administrators work, and how much a faculty learns from articulating its academic computing goals and trying to implement them. He also stressed the need for careful planning.

At UMass, vendors of microcomputer systems were required to supply equipment for evaluation at no cost to the micro lab; this process led to the choice of a "favoured vendor" for the entire university. Faculty members were then given microcomputers on condition that they attend training sessions and produce something of use for one of their courses; student programmers were assigned to those who requested them. In addition a large number of microcomputers were purchased for public access, and a network was provided for electronic mail, file transfer, and access to high-quality printing.

Mr. Bob Kozma of the University of Michigan discussed computer-aided instruction (CAI). He noted that educational software is very limited and in many cases will have to be developed locally. He outlined the major features of "advanced authoring systems," that is, some of the more recent software designed to help an instructor produce courseware, and concluded with a wide-ranging projection of what the future of CAI might be like.

The second day of the seminar was more specifically devoted to discussion among the conferees. The following is a brief summary of what was said.

Several problems of implementation were covered. The conferees discussed whether the students or the university should buy microcomputers. Two chief reasons for public sites were identified: as a temporary expedient until all students have machines, and as a convenience for those working on campus.

It was pointed out that the administrator of any site, public or otherwise, must plan for obsolescence. It was noted, however, that obsolescence is not a simple issue and that the rate of technological development is for the user not as rapid as we commonly think.

Two kinds of preparation for the advent of microcomputers were mentioned: an adequate support structure, covering all aspects of hardware and software; and provision of genuinely useful applications in selected courses. Conferees recognized that not all institutions have or are willing to allocate the funds for support, though it is essential to the success of a programme for distributed computing.

Dr. Willard McCarty
MCCARTY at UTORONTO

Personal Computer Service

UTCS is now offering service for most types of personal computers on a time and material basis. The hourly rate (effective May 1, 1986) is $60.00. There is a minimum $60.00 charge, plus travel time for "on site" service calls. There is no minimum charge for "in shop" repairs.

While we offer an excellent "per call" service program, we strongly recommend that you put your personal computers under an annual maintenance contract. This contract ensures that you will receive priority for repairs within a specified response and repair time objective. All parts and labour are covered; you pay only the cost of the contract. Considering that many of the parts in your computer cost far more than the contract price, it is wise to have the system under contract.

We are presently offering maintenance contracts on IBM PCs and IBM clones at industry-

continued...

Personal Computer Service continued

competitive prices. The minimum contract period is one year. Below is a list of typical systems and their associated contract prices:

Typical Unit		On Site Monthly	Depot Monthly
IBM PC	System unit with keyboard, 256K memory, two 360K floppy drives, mono display.	$18.50	$14.00
	Epson FX-80/FX-100 printer.	$ 7.00	$ 6.00
IBM PC PORTABLE	System unit with keyboard, 256K memory, two 360K floppy drives, mono display.	$22.00	$18.00
	Hayes smartmodem 1200.	$ 3.00	$ 2.50
IBM PC-XT	System unit with keyboard, 256K memory, 10M internal hard disk, one 360K floppy, mono display.	$27.50	$23.00
	Epson LQ1500 printer.	$ 8.00	$ 7.00
IBM PC-AT	System unit with keyboard, 512K memory, 20M internal hard disk, one 1.2M floppy, mono display.	$46.50	$41.00
	C.Itoh F10-55 printer.	$12.00	$10.00

Alternatively, the "Specified Man-Hours" contract is available. It guarantees a specified number of hours of service at a reduced rate of $30.00 per hour, but at a higher priority than noncontract service calls. The minimum contract is 10 hours, and parts are not included.

We welcome enquiries regarding upgrading of existing PC systems, installation of new systems, PC networking, and other PC hardware related activities.

For more information, please call Kam Mark at 978-5050.

Kam Mark

NetNorth Service Expands

The NetNorth computer network continues to expand. CMS users at U of T can now contact their colleagues at almost every university in Canada. The most recent additions include Laval University, Acadia University, University of Prince Edward Island, Mount St. Vincent University, Université de Québec à Montréal, and Lakehead University in Thunder Bay. The only major university not yet on the network (due to technical considerations) is the University of British Columbia. UBC is scheduled to be connected later this summer.

UTCS is currently evaluating several software and hardware packages that will allow other computers at U of T to join NetNorth. Membership will permit UNIX and VMS (and some other operating systems)

continued...

NetNorth continued

machines to hook up to the network, so that their users may take advantage of the faster transmission time and other features of NetNorth.

Psychologists will be interested in PSYCHNET, a new psychology bulletin board sponsored by the University of Houston. You can obtain and scan online copies of abstracts and recent papers; you can also post requests and items of interest.

For more information on NetNorth or PSYCHNET, contact Paul Shindman at 978-6878. For information on a free demonstration of electronic mail using NetNorth, see the next article.

Paul Shindman
PAULIE at UTORONTO

Free NetNorth (Electronic Mail) Demonstration

Anyone interested in sending mail, data or documents quickly, reliably, and inexpensively will want to attend this demonstration. You will learn first how to access the intercontinental NetNorth/BITNET/EARN communications network from CMS, and then how to send mail and files to other universities and research institutes in North America and Eurasia. Finally, you will be shown how to talk directly to someone on the network.

The one-hour demonstration will be held Wednesday, June 18, at 1:00 p.m., in the UTCS Education Facility, McLennan Physical Laboratories, Room 221.

Classroom space is limited; please reserve a place by calling the Education Coordinator at 978-4565.

Irene Rosiecki
ROSIECKI at UTORONTO

License Renewal for SAS under PC-DOS

In accordance with UTCS' distribution policy, all users who acquired SAS under PC-DOS from UTCS must renew their license if they wish to continue using SAS/PC. The maintenance release of base SAS, using 14 diskettes rather than 13, and the SAS/STAT module will be available in early June. To save time and energy, the renewal and distribution of these products will be done at the same time. The official renewal date is July 1, 1986, but distribution will commence as soon as possible in June. The renewal fee is $50.00 per installation.

How to get your diskettes:

Because of time and staff contraints, users are being asked to do the actual copying of diskettes themselves. This may take about 40 minutes for each set. For the base SAS, you may use your old diskettes plus one new one, or, if you prefer all new ones, UTCS will supply at cost ($23.50) a set of correctly formatted diskettes. In either case, those who have already paid for SAS/STAT will receive an additional seven formatted diskettes.

Here are the necessary steps:

1. Call Irene Rosiecki at 978-4565 for an appointment to copy the new base SAS and SAS/STAT. She will need to know whether you want to write over your old diskettes or purchase new ones.

2. As with your original license and diskettes, payment for the $50.00 renewal fee and any set of new diskettes must be made from University or research funds. To do this,

SAS under PC-DOS continued

contact Dale Wright in the UTCS Information Office (Room 206, Engineering Annex, Phone: 978-4990). These arrangements may be taken care of at the time of the appointment, if the person coming to do the copying has signing authority.

3. You will make your copies on an IBM PC-XT in the Engineering Annex, Room 207. When you come for your appointment, bring your old SAS/PC diskettes unless you have ordered a set of new ones from Irene. If you bring your own, and you find that one or two are damaged and can no longer be used, you will be able to purchase new ones from UTCS ($1.70 cash, for each).

   The PC will have a special program to make copying the diskettes very easy, and help will be available if you have any problems.

4. One more step will be necessary after July 1. SAS Institute includes a timebomb in the SAS/PC software, which makes it unusable a few weeks after the July 1 renewal date. You will need a validation code from the SAS Institute to reset the timebomb during July. Because of fiscal procedures at both U of T and the SAS Institute, we do not expect to have the code before mid-July. This information will be sent via Campus Mail as soon as possible to all users who have renewed. The user is then responsible for performing the initialization procedure, described in the installation notes, using this validation code.

Obtaining further information:

For technical information about SAS under PC-DOS, to arrange for a demonstration, or for assistance in completing the registration form, please call Andrzej Pindor at 978-5045.

Martha Parrott
PARROTT at UTORONTO
Dr. Andrzej Pindor
APINDOR at UTORONTO

BMDP '85 Available for Testing on MVS

BMDP '85 is available for user testing as of June 9, 1986. You can access it by specifying LEVEL=85 in the BMDP catalogued procedure. In the case of BMDPOPEN, the catalogued procedure BMDPOP85 must be used. The new release is linked with the VS FORTRAN library; thus, the FORTRAN code you supply must adhere to FORTRAN 77 rules.

The new release can also be used from within SAS (PROC SASBMDP) by specifying BMDLEVL=85 in your EXEC statement, irrespective of which version of SAS are you using.

BMDP '85 fixes a number of problems from the previous release and has some new features and improvements as well. Improvements are:

- In the arithmetic paragraphs (e.g., TRANSF, FUN), the slash (/) is used as both the "divide" and the "end-of-paragraph" symbol. To enhance detection of end-of-paragraph, the sequence digit-period-slash is now interpreted as "end-of-paragraph," while digit-slash is treated as "divide." For example, to divide 3 by A, code "3/A", not "3./A".

- In the INPUT paragraph, the statement "FILE=CONTROL" tells the BMDP program that the data file is to be read from the same file as the BMDP instructions. This feature can be used when the BMDP instructions are read from a file other than the primary input source.

continued...

BMDP '85 continued

- In the TRANSFORMATION paragraph, when ADD=NEW is in effect, the newly defined variable may be referred to as X(#), but only after the variable has been defined by name.

  The symbols < and > may be used instead of LT and GT respectively. In the conditional clause of IF statements (IF(condition) THEN ...), the equal sign (=) may be used rather than EQ.

  When an illegal operation is attempted, such as dividing by zero or using the log of a negative number, an error message is printed.

  The NONB function is no longer available.

- Scale computations for scatter plots have been improved. The number of columns between tick marks on a horizontal axis (or rows on a vertical axis) is now adjusted by the program to fill more of the plot space. This also produces "nicer" scale values.

  The "expected line" in a normal probability plot is now computed in double precision.

The following problems have been corrected:

- Mismatched pairs of "parentheses," such as (and }, triggered an incomprehensible error message. The error message is now understandable.

- Some programs produced the wrong error message in response to unbalanced parentheses. The message now correctly identifies the paragraph in which the mistake occurs.

- In BMDP instructions the pound sign (#) indicates that the rest of the line contains only comments. The # character is no longer ignored in column 1 of a record.

- The slash (/) can no longer be confused with the literal "/", preventing premature end-of-paragraph indication when literal "/" is used.

- When /INPUT FORMAT=FREE. is used, embedded blanks and periods close to the end of a record no longer trigger a false error message.

- In the TRANSFORMATION paragraph, the functions A and TCON now produce results with the correct sign.

- The scale values printed for the x-axis of normal probability plots have been corrected.

- The option requesting that only complete cases be saved now works when case-labelling variables are used.

For program-specific information, consult the excerpt from *BMDP Statistical Software Communications* (May 1985) available in the Information Office together with the revised manual *BMDP Statistical Software.* If you already have the 1983 manual, there is no need to purchase the new one. Just note the changes and corrections specified in the *BMDP Communications* mentioned above.

The new version of BMDP will be available for user testing until July 14, 1986. If no major problems are encountered, it will then become the production version. To access the 1983 version after that, you will have to specify it explicitly (LEVEL=83 for BMDP and BMDLEVL=83 for SASBMDP).

If you have questions or problems concerning BMDP '85, please contact Advising Services at 978-HELP.

Dr. Andrzej Pindor
APINDOR at UTORONTO

GENSTAT Version 4.04B

Version 4.04B of GENSTAT was installed on the MVS system during May, 1986, replacing version 4.03. GENSTAT is a general statistical package with good data transformation properties and much flexibility in performing multivariate techniques. However, GENSTAT can be difficult to use unless you are already familiar with statistics and computing.

There are two catalogued procedures available to run GENSTAT. The GENSTAT procedure provides a moderate workspace for 8000 double-precision values. The GENSTATX procedure with a VERSION parameter is required for larger models. VERSION = LARGE provides for 16000 values, while VERSION = ENORMOUS gives a workspace accommodating 32000 values.

Two changes may affect current users of GENSTAT. Units 10 and 17 are no longer available for user-defined files. GENSTAT now uses FT10F001 for macros and FT17F001 for an online error message file. Since Version 4.04B of GENSTAT requires a larger region than 4.03, the default regions for catalogued procedures GENSTAT and GENSTATX have been increased to 500K and 1000K respectively.

GENSTAT has a support level of C. This means that UTCS provides no active support for the product but only makes it available on the system. There is no guarantee that Advising Services will be able to help people with problems with GENSTAT.

Bill Fehlner
FEHLNER at UTORONTO

Saving UNNUMBERED Now the Default for WYLBUR

For many years now, when you saved data into a card-image dataset (i.e. fixed records 80 characters long), the WYLBUR line numbers were automatically saved in the dataset along with your data. These line numbers were placed in columns 72-80, writing over any data you might have had there. If you wanted to save your own data in these columns, you had to use the SAVE command with the UNN (unnumbered) option. To USE or COPY FROM a dataset saved without line numbers, the UNN option once again had to be specified.

The reason for this goes back to the days when data was often stored on cards. Card numbers were commonly placed in columns 72-80 in order to be able to identify each card. Since WYLBUR users often had their WYLBUR datasets punched into cards, the automatic numbering of card-image data was desirable. Now that cards are very seldom used, there is no need for this feature.

To save WYLBUR users from having to specify UNN or risk losing some of their data, UTCS changed the system default. As of April 14, UNN became the default for card-image datasets. When you SAVE into a card-image dataset, the WYLBUR line numbers you see in your ACTIVE File are not saved. All your data, and only your data, are placed into your dataset.

Those who still wish to save the WYLBUR line numbers can do so by using the NUM option with their SAVE, USE or COPY FROM commands.

If you have any questions about how this change will affect you, please call Advising Services at 978-HELP.

Roni Moravan
RONI at UTORONTO

WATERLOO C Upgrade at UTCS

UTCS has recently upgraded the Waterloo C Compiler under VM/CMS to Version 1.2. This new compiler is a major upgrade from the previous Version, 1.1, and contains many new features, including a code optimizer option. The Clib TXTLIB has also been upgraded with many new features including new utility functions.

In addition, we have received and are testing Version 1.3, another major upgrade to this processor. It will be available in the near future.

If you have any questions about Version 1.2, please call Advising Services at 978-HELP.

Herb Kugel
HERB at UTORONTO

Card Reader Discontinued

UTCS has been reviewing the usage of the only card reader we own (at the Engineering Annex). Over the last few years use has been dropping, and in the past year it plummeted sharply. Since we must recover our costs for this equipment, we have no choice but to raise the rates (effective May 1, 1986) to $12.50/1000 cards read. (This is the new price at University rates. External customers should consult their appropriate rate schedules.) Please note that this is a break-even price for UTCS based on current usage.

All accounts that have used the card reader in the past year have been notified of the rate increase by letter.

Moreover, because we expect that there will be little usage of the card reader by the end of summer, we plan to remove the card reader from service completely on August 31, 1986. We recommend that you move all your card data to magnetic tape or floppy diskettes before the card reader goes.

Users of Optical Mark Reader (OMR) cards may contact me at 978-6875 for alternatives to this service. I will also answer general questions on alternatives to card processing.

Ihor Prociuk
IHOR at UTORONTO

Varian Typesetting Simulator Service to be Discontinued

The Varian Typesetting Simulator Service will be discontinued as of June 1, 1986. In the past year only two accounts have used the service and the income generated for UTCS no longer covers the cost of maintenance and support for the equipment. The Varian was generally used to produce a low-quality, less expensive, "preview" copy of material intended for high-quality output on the CAT/8 Photocomposer.

If you have any questions, please call me at 978-6875.

Ihor Prociuk
IHOR at UTORONTO

File Transfer Service Moves to VM/CMS

The File Transfer Service (FTS) will be moved to the VM/CMS service sometime during this summer. Users will be notified of the exact date through broadcast messages on both the MVS and FTS machines. At that time, documentation will be provided so that users can make the changeover smoothly.

Most users should not experience any difficulties, but if you have any questions or problems, please call Advising Services at 978-HELP.

Roni Moravan
RONI at UTORONTO

Recycle Shelves in McLennan Labs

In the heyday of the line printer, new computer users were often startled, and then distressed, by the amount of paper accompanying even one page of actual output. To counteract the waste, computer centres provided bins where the discarded line printer forms could be placed for recycling.

A happy side effect of the laser printer is a substantial reduction in both the amount and the size of paper used for output. However, every job still produces at least three sheets of paper that will probably be discarded.

Until recently, the CENTRAL site (third floor, McLennan Laboratories) had no particular place for users to put pages to be recycled. UTCS Operations staff have now set aside three areas in the output shelves for this purpose. If you want your discarded paper to be recycled, please look for the "Recycle" signs at the bottom level of the shelves.

Martha Parrott
PARROTT at UTORONTO

Hours of Service

Canada Day			
			July 1 (Tuesday)
IBM MVS GPJS(Classes B and E, Calcomp)			closed
IBM MVS GPJS(Class A, WYLBUR, APL, TSO)			unattended
IBM VM/CMS			unattended
GP UNIX			unattended
Normal hours of service for all systems will resume Wednesday July 2, 1986.			
Civic Holiday			
	August 2 (Saturday)	**August 3 (Sunday)**	**August 4 (Monday)**
IBM MVS GPJS(Classes B and E, Calcomp)	10:00-18:00*	10:00-18:00*	closed
IBM MVS GPJS(Class A, WYLBUR, APL, TSO)	10:00-18:00*	10:00-18:00*	unattended
IBM VM/CMS	10:00-18:00*	10:00-18:00*	unattended
GP UNIX	unattended	unattended	unattended
Normal hours of service for all systems will resume Tuesday August 5, 1986.			

* *Running unattended outside these hours.*

In the event of any changes to the above schedules, a notice will appear in system messages one week prior to the holiday.

Summer hours of service for the University of Toronto will be in effect July 2 through August 29, 1986. UTCS' office hours will be 08:45 to 16:30 during this time.

UTCS Noncredit Short Courses

UTCS offers a number of noncredit short courses on the various products and services supported by UTCS and available on mainframe computers. These courses were designed to assist people who have found themselves becoming more involved with computers and information processing systems. The courses offered are geared toward text processing, for those who want to enter a thesis or manuscript online, and toward statistical applications, for people wanting to do data analysis and produce reports, using SAS.

The following courses are available at UTCS:

FORT/CMS101 - Introduction to CMS for FORTRAN Users
JCL101 - IBM Job Control Language for Beginners
SAS101 - Introduction to SAS
SAS201 - Intermediate SAS
SAS/CMS101 - Introduction to SAS and CMS
SAS/GRA101 - Introductory SAS/GRAPH
TXT/CMS101 - XEDIT and SCRIBE on CMS
TXT/UNIX101 - *ed* and SCRIBE on GP UNIX
TXT/SCR102 - SCRIBE Formatter
TXT/SCR202 - Special SCRIBE Topics
TXT/UNIX103 - *nroff/troff* on GP UNIX
TXT/UNIX203 - *tbl* Program on GP UNIX

The following course is scheduled for **June**:

TXT/CMS101 - XEDIT and SCRIBE on CMS
Date: June 16-27, 1986
Time: 9:30-11:30 a.m.

Complete course descriptions are available in the Information Office, Engineering Annex, Room 206.

If you would like further information, or if you want to register for any of these courses, please contact:

Education Coordinator
978-4565

Irene Rosiecki
ROSIECKI at UTORONTO

Personnel Changes

Over the past few months a number of changes in personnel have taken place within UTCS:

Geoffrey Chun was promoted to Technology Systems Analyst in the Communications and Technical Support Group.

Lee Manning was promoted from Computer Operator III to an Operations Shift Supervisor.

Clement Ferdinand was promoted from a Computer Operator II to Computer Operator III.

Bruce Pinn moved to the Systems Group as a System Software Programmer III.

MaryAnn Cervin-Lawry began maternity leave and will be gone until mid-September. **Warren Bell** from Advising Services is temporarily replacing her.

Marnie Scobie from Operations, and a twelve-year employee at UTCS, has left to start a career in real estate.

Best wishes and good luck to all of you!

Change Committee

Changes to the IBM Academic MVS Machine Services

1. DATATEXT was removed from this machine on March 7.
2. RLINK was made available to users on March 18.
3. A new WYLBUR was installed on April 14; card-image datasets are now saved UNNUM by default.
4. SUPERSET UTILS 3.1 was installed for production on April 14.
5. SAS 82.3 was archived from MVS on April 24.
6. The rate charged on the card reader was increased from $5.00 to $12.00 on May 1.

Changes to Academic VM Machine Services

1. The "CHARGES" command was implemented on March 10 to streamline options so that the format is more consistent with other CMS commands.
2. As of March 10, daily transmissions of Auto Print Charges are received from MVS and then posted to VMACCOUNT on a daily basis.
3. SAS RLINK was installed on March 18.
4. ARRAS was made available to GETME March 20.
5. A supported version of CMS SCRIBE was installed March 21.
6. HPO with cache-controller Program Offering was installed on April 3, and we are presently running on the cache controller.
7. The Yale TPRINT program was made available to users on April 15.

Changes to Other Systems and Services

1. BSD 4.2.5 was installed on GP UNIX April 18 to make the present release of KERNEL run faster.
2. System programs on the GP UNIX were updated on April 24 to give improved utility performance.
3. The PACX configuration was reorganized on April 30 to decongest the highspeed lines on a terminal multiplexor.
4. MFFTS service was removed from the HUB 750 on April 10.

Beverly Scarborough
BEVS at UTORONTO

Recent Acquisitions in the Computer Library

ACM SIGACT-SIGMOD Symposium on Principles of Database Systems,
5th, Cambridge, Mass., March 1986.
Proceedings.
New York, ACM, 1986.

Adobe Systems Incorporated
PostScript language: tutorial and cookbook.
Reading, Mass., Addison-Wesley, 1985.

Adobe Systems Incorporated
PostScript language: reference manual.
Reading, Mass., Addison-Wesley, 1985.

Appelt, Douglas Edmund.
Planning English sentences.
Cambridge, University Press, 1985.
(Studies in natural language processing, v.3)

Bentley, Jon,
Programming pearls.
Reading, Mass., Addison-Wesley, 1986.

Computer publishers and publications: an international directory and yearbook. 1985-86 edition.
Larchmount, N.Y., Communications Trends, Inc., 1985.

continued...

Computer Library continued

Godfrey, Michael D.
Machine-independent organic software tools (MINT), by M.D. Godfrey, et al. 2d ed.
London, Academic Press, 1982.

International Conference on Expert Database Systems, 1st, Charleston, S.C., April 86.
Proceedings, ed. by L. Kerschberg.
University of South Carolina, 1986.

Lucas, Henry C., Jr.
Introduction to computers and information systems.
New York, Macmillan, 1986.

Miller, Perry L.
A critiquing approach to expert computer advice: ATTENDING.
Boston, Pitman, 1984.

Rosenberg, Richard S.
Computers and the information society.
New York, Wiley, 1986.

SPORT data base subject heading and country codes.
Ottawa, Sport Information Resource Center, 1984.

Waterman, Donald Arthur.
A guide to expert systems.
Reading, Mass., Addison-Wesley, 1986.

Stephanie Johnston

Technical Reports Received in the Computer Library

AT&T Bell Laboratories

Aho, Alfred V., et al.	Awk - a pattern scanning and processing language programmer's manual. 36 p. #118.
Cardelli, Luca.	The amber machine. 23 p. #119.
Morris, Robert T.	A weakness in the 4.2BSD UNIX TCP/IP Software. 3 p. #117.
Pike, Rob.	The Blit programmer's manual (TTY edition) 35 p. #121.
Tjiang, Steven W.K.	Twig reference manual. 24 p. #120.

University of Illinois

Railey, Malcolm R.	Dynamic control structure for cooperating processes. 177 p. #1257.
Reed, Daniel A., et al.	Stencils and problem partitionings: their influence on the performance of multiple processor systems. 49 p. #1262.

continued...

Computer Library continued

Université de Montréal

Babin, A., et al.	TRIO an interactive graphic system for demand model estimation. 24 p. #554.
Bochmann, Gregor von.	Recent developments in protocol specification, validation and testing. 14 p. #557.
Cook, Stephen A. and McKenzie, Pierre.	Problems complete for deterministic logarithmic space. 10 p. #560.
Godin, Robert, et al.	Latice model of browseable data spaces. 45 p. #550.

Rutgers University

Marlowe, T.J., Jr.	Taxicabs and least-cost partition algorithms. 172 p. DCS-TR-169.
Sackrowitz, M.G.	Incremental updating of depth-first search trees . 17 p. DCS-TR-172.
Salowe, J. and Steiger, W.	Simplified stable merging tasks. 15 p. DCS-TR-173.

Wang Institute

Beeri, C., et al.	A model for concurrency in nested transaction systems. 59 p. TR-86-03.
Raghavan, Sridhar A. and Chand, Donald R.	Applications generators & fourth generation languages. 47 p. TR-86-02.

Stephanie Johnston

Documents at UTCS

All vendor-produced documentation may be ordered through the UTCS Information Office, Room 206, Engineering Annex. UTCS documents and selected vendor documents are also stocked there for purchase. Whenever feasible, documents are made available online, and users are encouraged to print their own copies. On the MVS and VM machines, special commands have been provided for this purpose.

To print online documents on:

IBM MVS
WYLBUR users type "do document?"
TSO users type "help document"
APL users type ")LOAD 1 UTCSGUIDE<RETURN>HELP"

IBM VM/CMS
type "help document"

GP UNIX
use *ipr* command

See examples at the end of next page.

UTCS Documents in hardcopy

New:

Previously announced:
Academic's Guide to Microcomputer Systems
Character Sets for Highspeed Printing
UTCS GUIDE TO PRODUCTS AND SERVICES: Introduction
UTCS GUIDE TO PRODUCTS AND SERVICES: Basics
UTCS GUIDE TO PRODUCTS AND SERVICES: Accounting
UTCS Catalogue: Access, Part I
UTCS Catalogue: Access, Part 2
UTCS Catalogue: IBM MVS Utilities
UTCS Catalogue: Numerical Products
UTCS Catalogue: Statistics Products
UTCS Catalogue: Storage
UTCS Catalogue: Text Products
UTCS Guide to Census Tapes
UTCS Guide to File Transfer Service
UTCS Guide to Kermit
UTCS Guide to Text Processing on GP UNIX

UTCS Documents online	MVS MANUAL	CMS LISTING	GP UNIX	Forms Code
New:				
UTCS GUIDE TO PRODUCTS AND SERVICES: Introduction	INTRO		/usr/doc/utcs/intro	*
UTCS Rate Schedule (Commercial)		RATESCOM		‡
UTCS Rate Schedule (External)		RATESEXT		‡
UTCS Rate Schedule (Internal)		RATESINT		‡
Previously announced:				
UTCS GUIDE TO PRODUCTS AND SERVICES: Basics	BASICS	BASICS	/usr/doc/utcs/basics	*
UTCS Catalogue: Access, Part I	ACCESSI		/usr/doc/utcs/accessI	*
UTCS Catalogue: Access, Part 2	ACCESS2		/usr/doc/utcs/access2	*
UTCS Catalogue: IBM MVS Utilities	MVSUTIL	MVSUTIL		*
Product-Function List	UTILLIST	UTILLIST		BXQD
UTCS Catalogue: Numerical Products	NUMCAT	NUMCAT		*
Product-Function List	NUMLIST	NUMLIST		BXQD
UTCS Catalogue: Statistics Products	STATCAT	STATCAT		*
Product-Function List	STATLIST	STATLIST		BXQD
UTCS Catalogue: Text Products	TEXTCAT	TEXTCAT	/usr/doc/utcs/textcat	*
UTCS Guide to APL	APLGD			*
UTCS Guide to APLXFR	APLXFR			*
UTCS Guide to BMDP	BMDP	BMDP		*
UTCS Guide to Census Tapes	CENSUS	CENSUS	/usr/doc/utcs/census	*
UTCS Guide to File Transfer Service	FTS			*
UTCS Guide to GP UNIX			/usr/doc/utcs/gpunix	*
UTCS Guide to GPJS	GPJSX	GPJSX	/usr/doc/utcs/gpjs	*
UTCS Guide to Highspeed Printing	PRINT	PRINT	/usr/doc/utcs/print	*
UTCS Guide to IBM MVS Online Storage	IBMDISK	IBMDISK		*
UTCS Guide to Kermit	KERMIT	KERMIT	/usr/doc/utcs/kermit	*
UTCS Guide to Micro Laser Printing	MICRLASR	MICRLASR		*
UTCS Guide to SAS	SAS	SAS		*
UTCS Guide to SCRIBE		SCRIBE	/usr/doc/utcs/scribeguide	*
(For printing instructions, see page I of document)				

** Recommended forms code for the 8700 is YXLE unless otherwise stated.*
‡ Use the 87SET command. Type "help 87set".

Documents at UTCS continued

UTCS Documents online	MVS MANUAL	CMS LISTING	GP UNIX	Forms Code
UTCS Guide to Series/1 Terminal Use	SERIES	SERIES		*
3270 Emulation:				
Cybernex APL100 and Volker Craig VC404	CYBER	CYBER		*
DM1520	DM1520	DM1520		*
Hardcopy Terminal	HARDCOPY	HARDCOPY		*
IBM 3101	IBM3101	IBM3101		*
IBM PC Kermit	PCKERMIT	PCKERMIT		*
SOROC IQ	SOROC	SOROC		*
VT52	VT52	VT52		*
VT100	VT100	VT100		*
UTCS Guide to SPSS	SPSS	SPSS		*
UTCS Guide to SUBUTILS	SUBUTILS	SUBUTILS		*
UTCS Guide to Text Processing on GP UNIX			/usr/doc/utcs/text	*
UTCS Guide to TFW.MAK in SCRIBE		TFWMAK	/usr/doc/utcs/tfwguide	*
UTCS Guide to TSO	TSOGD			*
UTCS Guide to UTDSUTIL	UTDSUTIL	UTDSUTIL		*
UTCS Guide to VM/CMS	CMSGD	CMSGD		*
UTCS Guide to WYLBUR	WYLINTRO			*
UTCS WYLBUR Tutorial	WYLTUTOR			*
Other Documentation online:				
Kermit				
Kermit Protocol Manual	KERMITPM	KERMITPM		YXOE
Kermit User Guide	KERMITUG	KERMITUG		YXOF
Waterloo SCRIPT				
Reference Manual	WSCRPTRF	WSCRPTRF		YXLC
User's Guide	WSCRPTUG	WSCRPTUG		YXLC
GML USER'S Guide	GMLUG	GMLUG		YXLC
OBS WYLBUR				
Messages and Codes	WYLMSGS			YXLD
Qwik Files	WYLQWIK			YXLD
Reference Summary	WYLREFCD			YXLG
Reference Manual	WYLREFMN			YXLD
7.0 Release Guide	WYLREL70			YXLC
User Guide	WYLUSER			YXLD

In these examples, the document to be printed is the UTCS Guide to Census Tapes (MANUAL/LISTING=CENSUS).
<RETURN> means RETURN or ENTER key.

TSO: document census forms(yxle) <RETURN>

WYLBUR: do document <RETURN> and respond to the prompts.

CMS: document <RETURN> <RETURN>
laser census listing (forms yxle <RETURN>

GP UNIX: nohup ipr -8p -fyxle /usr/doc/utcs/census & <RETURN>

* *Recommended forms code for the 8700 is YXLE unless otherwise stated.*

Consulting and Enquiries

Applications Support & Advising Supervisor	Alex Nishri	MP257	978-7109
External Marketing Consultant	Ihor Prociuk	MP350	978-6875
Erindale College	Joe Lim	ER2035	828-5311
Scarborough College	William Barek	SC626	284-3173
Information Office	Dale Wright	EA206	978-4990
Account & Access Code Enquiries (U of T)	Agatha Stevens	MP337	978-8703
Account & Access Code Enquiries (External)	Sylvia May	MP337	978-7148
IBM PC Maintenance	Kam Mark	SF4306	978-5050
Tape Library (Academic Services)	Rosa Ciddio	MP368	978-7319
Tape Library (Administrative Services)	Miranda Fong	MP368	978-6693
Terminal Rentals	tba	SF4306	978-3787
U of T Computer Library	Stephanie Johnston	EA206	978-2987
UTCS Noncredit Short Courses	Irene Rosiecki	EA207	978-4565

Consulting & Advising Services		300 Baud Interactive Services	978-6200
Phone:	978-HELP	1200 Baud Interactive Services	978-3959
CMS, TSO and GP UNIX userids:	ADVISOR	Datapac	4320 0056
CMS Userid for mail problems:	POSTMSTR	Telnet	0302043200056
Microcomputer Advising(MSG)	978-8701	Tymnet	<backspace> DPAC;302043200056
Numerical/Statistical Advising(SNAC)	978-STAT		
System Status Enquiries (GP UNIX)	978-4318		
System Status Enquiries (IBM)	978-7393		

UTCS Directory

Director	Dr. Warren Jackson	MP350	978-8948	WCJ at UTORONTO *
Associate Director	Eugene Siciunas	MP350	978-5058	EUGENE at UTORONTO *
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Operations	Dr. Bob Chambers	MP350	978-7092	
Systems	Bill Lauriston	MP331	978-3579	BILL at UTORONTO *
User Interface	Don Gibson	MP350	978-7331	DON at UTORONTO *

Committees on Computing

UTCS Board	Chairman	Prof. D.M. Nowlan	978-4984	NOWLAN at UTORONTO *

ER = Erindale
MP = McLennan Physical Labs
SC = Scarborough
SF = Sandford Fleming

* NetNorth/BITNET/EARN

UTCS Terminal and Advising Sites

Names and Locations

- **Central Advising Office (CAO), 978-HELP**
- **Education Facility (Educ),** McLennan Labs, 255 Huron St., Room 221
- **Engineering Annex (EA, CDF),**11 King's College Road, Rooms 103, 104, 107, 107B, 201, 203.
- **Erindale College (Erin), 828-5339,** Mississauga Road, Erindale Campus, Rooms 2005, 2039, 2045
- **Robarts,** Robarts Library, 130 St. George St., Room 1061A
- **Scarborough College (Scar), 284-3122,** Military Trail, Scarborough Campus, Rooms S624, S625, S627, S628, S628A
- **Sidney Smith (Sidney),** 100 St. George St., Rooms 1071, 1073, 2105
- **St.Michael's College,** 121 St. Joseph St., Room 107
- **Trinity College,** 6 Hoskins Ave., Room 024
- **Victoria University,** 73 Queens Park Cres., Room 005.

Sites	Hours of Access				Restrictions*	Advising
	Mon-Thurs	Fri	Sat	Sun		
CAO	10:00-18:00	10:00-18:00	closed	closed	Research	978-HELP
CDF	24 hrs	24 hrs	24 hrs	24 hrs	Undergrads	No
EA	24 hrs	24 hrs	24 hrs	24 hrs	None	978-HELP for Research
Educ	24 hrs†	24 hrs†	24 hrs†	24 hrs†	Research**	978-HELP
(outer)	24 hrs†	24 hrs†	24 hrs†	24 hrs†	Research	978-HELP
Erin (2039)□	9:00-17:00	9:00-17:00	closed	closed	Research	Rm 2005
(2045)	24 hrs	24 hrs	24 hrs	closed	Undergrads	Rm 2005
Robarts	8:30-23:00	8:30-18:00	9:00-17:00	closed	None	978-HELP for Research
Scar	24hrs°	24hrs°	24hrs°	24hrs°	Research	Rm S626
					Undergrads	Rm S626-A
Sidney	7:00-24:00	7:00-24:00	7:00-24:00	7:00-24:00	None	978-HELP for Research
St.Michael's	closed	closed	closed	closed	None	Arranged by College
Trinity	closed	closed	closed	closed	None	Arranged by College
Victoria	closed	closed	closed	closed	None	Arranged by College

* Research includes graduates, faculty, staff. ** May be unavailable due to UTCS courses. □ key access available.
† Building open Mon.-Thurs. 7:00 - 22:00, Fri. 7:00 - 17:00. Building closed Sat. & Sun. ° printers available some of the time

Advising Hours

CAO	Monday through Friday, 10:00 - 18:00
Scar	Monday through Friday, 09:00 - 16:30, Wednesday and Friday 18:00 - 22:00
Erin	Monday through Friday 09:00 - 16:30

Sites	PACX	Network Terminal Server	CMS Terminals	Printers	DCS/Micros
CDF	Y	N	N	Y	N
EA	N	Y	Y	Y	N
Educ	Y	N	N	N	N
Erin	Y	Y	N	Y	N
Robarts	Y	N	Y	Y	Y
Scar	Y	Y	N	Y	N
Sidney	N	Y	Y	Y	Y
St.Michael's	Y	N	N	Y	Y
Trinity	N	N	Y	Y	Y
Victoria	Y	N	N	Y	Y

(Y=yes, N=no)

UTCS Services

The principle mandate of UTCS is to plan, implement, and operate computer facilities and "common-carrier" networks, and to plan and support divisional, departmental or project computer facilities as requested.

UTCS Centrally Owned and Managed

Systems

IBM MVS

- TSO, WYLBUR,APL, Batch
- 4381-R03 processor, 32 megabytes of memory
- MVS operating system

IBM VM/CMS

- General Purpose Timesharing; access to NetNorth, BITNET, and EARN networks
- 4381-P02 processor, 16 megabytes of memory
- CP operating system, VM/SP HPO R3.4
  CMS timesharing system, VM/SP Release 3
  RSCS spooling system, Release 3

GP UNIX

- General Purpose Timesharing using 4.2BSD UNIX
- VAX-11/750, 5 megabytes of memory
- typesetting hardware (CAT/8)
- offers USENET "news" and electronic mail to most uucp sites

Services

Communications & Technical Support
Primary Phones: 978-3787, 978-4967

- Communications Group provides communications systems, terminals, modems, data channels: consulting and installation.
- Field Service Group installs and maintains communications and computer systems, particularly IBM PCs, on a contract basis or on a cost-per-call basis.
- provides consulting on computer systems technology and installs computer systems
- provides access between the IBM systems and machines using UNIX, VMS and other operating systems. Ethernet and Pronet technologies are used over various transmission media including optical fibre. More basic communications techniques are also used for moderate speed links.
- provides access to NetNorth (BITNET), the North American Universities Network; and USENET, the UNIX networking fraternity
- will provide a communications solution to department needs on a contractual basis.

User Interface Group
Primary Phone: 978-HELP

- provides advising, consulting and documentation on:
  - command languages
    including CMS, TS0, WYLBUR, JCL and UNIX
  - high level languages
    including FORTRAN, APL and PL/1
  - packages and libraries
    including SAS, SPSS-X, BMDP, IMSL and NAg
  - editors and formatters
    including XEDIT, TSO, WYLBUR, ed, SCRIBE, nroff/troff
- installs and maintains application packages
- provides courses on the more popular services
- provides general micro support
  - selection consulting for hardware and software
  - Micro Lab for evaluation of hardware and software
  - advice on University discounts
  - media conversion and data transfer
  - operates UTCS Microcomputer Bulletin Board System
  - offers Micro Laser Printing Service

Facilities Managed by UTCS

Administrative Computing

- administrative IMS/VS, DB/DC, DB2, Batch and TS0
- 4381-R03 processor, 32 megabytes of memory
- MVS operating system

UNIX SAS (Statistical Analysis Services)

- UNIX Statistical Analysis Service (Dept. of Statistics only)
- PDP-11/70, 4 megabytes of memory
- UNIX Seventh Edition

Computer Disciplines Facility/VAX

VAX-11/780, 4 megabytes of memory
VAX-11/750, 4 megabytes of memory
VAX-11/750, 4 megabytes of memory

- Computer Science interactive access
- UNIX (Berkeley UNIX 4.2BSD)

Computer Disciplines Facility/PC

- 97 TI Professional Computers connected in a Local Area Network
- introductory Computer Science instruction
- MS-DOS with Turing environment

Scarborough College Systems

VAX-11/750, 5 megabytes of memory
VAX-11/750, 5 megabytes of memory
- instructional access using UNIX (Berkeley UNIX 4.2BSD)

Erindale College Systems

VAX -11/780, 4 megabytes of memory
- instructional access using VMS
- research access

VAX-11/750, 5 megabytes of memory
- instructional access using UNIX (Berkeley UNIX 4.2BSD)

Institutional Relations System

VAX-11/750, 6 megabytes of memory
- database services to the owner departments using VMS

EPAS Facility

- 4361-5 processor, 12 megabytes of memory
- general VM/CMS services to the owner departments

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